



Transformational adaptation when incremental adaptations to climate change are insufficient

Author(s): Kates RW, Travis WR, Wilbanks TJ
Year: 2012
Journal: Proceedings of The National Academy of Sciences of The United States of America. 109 (19): 7156-7161

Abstract:

All human-environment systems adapt to climate and its natural variation. Adaptation to human-induced change in climate has largely been envisioned as increments of these adaptations intended to avoid disruptions of systems at their current locations. In some places, for some systems, however, vulnerabilities and risks may be so sizeable that they require transformational rather than incremental adaptations. Three classes of transformational adaptations are those that are adopted at a much larger scale, that are truly new to a particular region or resource system, and that transform places and shift locations. We illustrate these with examples drawn from Africa, Europe, and North America. Two conditions set the stage for transformational adaptation to climate change: large vulnerability in certain regions, populations, or resource systems; and severe climate change that overwhelms even robust human use systems. However, anticipatory transformational adaptation may be difficult to implement because of uncertainties about climate change risks and adaptation benefits, the high costs of transformational actions, and institutional and behavioral actions that tend to maintain existing resource systems and policies. Implementing transformational adaptation requires effort to initiate it and then to sustain the effort over time. In initiating transformational adaptation focusing events and multiple stresses are important, combined with local leadership. In sustaining transformational adaptation, it seems likely that supportive social contexts and the availability of acceptable options and resources for actions are key enabling factors. Early steps would include incorporating transformation adaptation into risk management and initiating research to expand the menu of innovative transformational adaptations.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3358899>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Unspecified Exposure

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified



Climate Change and Human Health Literature Portal

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type:

format or standard characteristic of resource

Policy/Opinion, Research Article

Timescale:

time period studied

Time Scale Unspecified